

The following three North American species are not included in the table, as the characters used in the key are not all mentioned in the descriptions.

Producta Walker (Georgia, Cuba, Jamaica). First posterior cell closed in the border of the wing; femora not banded; thorax and abdomen rufous.

Bisetosa Coquillette (Arizona, New Mexico). Black mesonotum gray pollinose with four brownish vittæ; posterior margin of each abdominal segment yellow; third antennal joint yellow below; femora black with yellow base; coxæ yellow; knobs of halteres infuscated; upper part of face, cheeks, mouth parts and lower part of occiput yellow.

Ruficeps Van der Wulp (Mexico). Antennæ red; femora without dark rings or spots; first posterior cell closed in the wing margin.

A TABLE OF THE NORTH AMERICAN SPECIES
OF HYDROPHORUS WITH THE DESCRIPTION
OF A NEW FORM (DIPTERA)

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In 1864 Doctor Loew published the first table of North American species of the genus *Hydrophorus*, separating the three species known to him at the time. In 1899 Doctor Wheeler's table of species of the genus appeared, containing ten species, and in 1911 Doctor Aldrich revised the genus, describing a number of new species and giving a table to the twenty-four species known to him at the time. In 1923 my table containing thirty-four forms appeared; since then eleven new species have been published, and in this paper is one more; so it seems the time has come when we need another table, that those working in the genus may more easily determine their material. The present table separates forty-eight species, all but one or two of which I have examined in my work on the genus.

***Hydrophorus vandykei* Van Duzee, new species**

Male. Length, 2 mm.; of wing, 4 mm. Upper portion of face bright green, lower part and a narrow space above the suture thickly covered with silvery-white pollen; lower orbital cilia and beard yellow; one pair of postverticals; antennæ small, black; front opaque with brown pollen; occiput dark green, quite shining; cheeks forming a small lobe below the eye.

Dorsum of thorax metallic green, more green along the pleural suture, pleuræ and coxæ blackish; one propleural bristle above each fore coxa; two pairs of scutellar bristles; bristles on fore part of thorax small; pleuræ, coxæ, and sides of abdomen with white pollen. Abdomen short, shining bronze color; hypopygium concealed.

Fore coxæ with very small whitish hairs, four moderately long, black bristles on upper third of outer edge of anterior surface and several small ones at tip; femora and tibiæ shining green, nearly straight; fore femora thickened at base, regularly tapering to tip. Wings nearly hyaline; veins black to the root of the wing. Knobs of halteres blackish.

Type, male, No. 1880, Mus. Calif. Acad. Sci., taken by Dr. E. C. Van Dyke, June 8, 1925, at Newport, Oregon.

This would run in a table of species to *innotatus* Loew, but differs in having but four bristles on anterior coxæ, located at upper outer corner.

TABLE OF THE NORTH AMERICAN SPECIES OF HYDROPHORUS

1. Knobs of halteres wholly yellow.....	2
— Knobs of halteres infuscated, at least on outer surface.....	31
2. Postvertical bristles in a row of four or more on each side.....	3
— Postverticals only two, as usual.....	9
3. Scutellum with two or more pairs of marginal bristles.....	4
— Scutellum with only one pair of marginal bristles.....	6
4. Wings with distinct whitish spots or clouds in the cells and at base (Manitoba).....	<i>albomaculatus</i> Van Duzee
— Wings without whitish spots, grayish hyaline as usual.....	5
5. Face nearly or quite opaque with white pollen (Western).....	<i>argentatus</i> Van Duzee
— Face opaque with yellow pollen (Eastern).....	<i>intentus</i> Aldrich
6. Propleuræ with two or more black bristles above each fore coxa	7
— Propleuræ without, or with but one black bristle above each fore coxa	8
7. Face wholly opaque with pollen (Washington)....	<i>plumbeus</i> Aldrich
— Face wholly shining metallic (California; Lower California).....	<i>(Melanderia) curvipes</i> Van Duzee
8. Face and body wholly covered with yellow pollen, which is very thick in the male (Manitoba).....	<i>fulvidorsum</i> Van Duzee
— Pollen thinner and mostly gray, at most only slightly tinged with yellow (Western).....	<i>gratiosus</i> Aldrich
9. With two or more black propleural bristles above each fore coxa	10
— With only one black propleural bristle above each fore coxa....	18
— Without a black propleural bristle.....	11

10. Cheeks narrow, scarcely visible (Alaska).....*flavihirtus* Van Duzee
 —. Cheeks wide, extending considerably below the eyes (Alaska)
*brevicauda* Van Duzee
11. Second vein of wing very short, ending opposite the cross-vein
 (Texas, Kansas, South Dakota, Colorado).....*cerutias* Loew
 —. Second vein normal, ending far beyond the cross-vein..... 12
12. Dorsocentrals minute, white; fore femora of male with a deep
 notch near the tip, their tibiae bent (Wyoming, Kansas,
 South Dakota, California).....*canescens* Wheeler
 —. Dorsocentrals black 13
13. Middle femora with long white hair on lower surface; last
 joint of middle tarsi enlarged; cheeks almost invisible
 (Michigan)*agalma* Wheeler
 —. Middle femora with only very short white hair below, or the
 hair wholly black; cheeks wide or narrow..... 14
14. Wings with the cross-vein distinctly infuscated, usually form-
 ing a brown spot, sometimes a faint spot on last section of
 fourth vein; cheeks wide; beard and hairs on fore coxae
 white (Alaska).....*pectinipes* Van Duzee
 —. Wings without such spots or infuscation of the cross-veins..... 15
15. Hairs on dorsum of abdomen almost wholly white..... 16
 —. Hairs on dorsum of abdomen black, except sometimes on the
 hind margins of the segments..... 17
16. Face with white pollen (Alaska).....*canites* Van Duzee
 —. Face with pale yellow pollen; wing veins and costa yellow
 (New York)*flavipennis* Van Duzee
17. Cheeks wide, extending lobe-like below the eye (Alaska)
*pectinipes* Van Duzee
 —. Cheeks very narrow (British Columbia).....*nigrinervis* Van Duzee
18. Face opaque with pollen, the ground color not showing
 through 19
 —. Face showing more or less metallic color through the pollen 22
19. Face ochre-yellow; wings with very conspicuous spots on the
 cross-vein and last section of fourth vein; veins blackish
 scarcely paler at base (Ontario).....*glaber* Walker
 —. Pollen of face white; wings without spots on the veins..... 20
20. Veins broadly yellow at root of wing, sometimes mostly yellow
 (North America)*estuum* Loew
 —. Wing veins wholly black or brown..... 21
21. Beard and hairs of fore coxae white; appendages of hypopy-
 gium long with long hairs at tip (British Columbia).....
*nigrinervis* Van Duzee
 —. Beard yellow; hairs of fore coxae a little yellowish; hypopy-
 gium with short appendages that have only short hair
 (Manitoba)*argentifacies* Van Duzee
22. Tips of fore tibiae in both sexes with an acute angle produced
 toward the femora; fore coxae with from one to three black
 bristles on upper outer corner..... 23

- . Tips of fore tibiæ not, or but little angulated..... 24
23. Wings without spots on the veins; face usually very bright blue-green as far down as the suture (North America).....*philombreus* Wheeler
- . Wings with the cross-vein infuscated, usually with a spot on its middle; upper part of face with the ground color showing through a little, but not bright metallic (Alaska).....*pectinipes* Van Duzee
24. Wings with a cloud on the cross-veins..... 25
- . Wings without a cloud on the cross-vein..... 28
25. Wings of both male and female with a faint spot on the cross-vein, but not on the last section of fourth vein..... 26
- . Wings with a conspicuous spot on both cross-vein and middle of last section of fourth vein..... 27
26. Fore tibiæ of male notched near apical third; female with a row of longer bristles near the tip of posterior surface, at the lower edge of fore femora (Western)....*breviseta* Thomson
- . Male with fore tibiæ plain; fore femora with the longest bristles near the base, on anterior surface of lower edge (Saskatchewan)*criddlei* Van Duzee
27. Hairs on fore coxæ white or yellowish white, delicate (Alaska).....*viridifacies* Van Duzee
- . Hairs on fore coxæ deep yellow, quite stiff and long (Alaska).....*flavihirtus* Van Duzee
28. Fore femora of female with a single row of spines below on the anterior edge; those of male with an irregular stripe of spines below..... 29
- . Fore femora of male and female with a double row of spines below 30
29. Fore coxæ with abundant yellowish hair (Manitoba).....*claripennis* Van Duzee
- . Hair of fore coxæ wholly white, short, not abundant (Manitoba)*purus* Curran
30. Pleuræ with thin brownish or yellowish pollen; length, 4.5 mm.; both rows of spines on lower surface of fore femora of about equal length (Western).....*magdalena* Wheeler
- . Pleuræ with white pollen; length, 3 mm.; fore femora with a row of five spines on lower posterior edge which are much longer than those in anterior row (Wyoming, Colorado, Utah)*sodalis* Wheeler
31. Wings with a brown spot on the cross-vein and another on the middle of last section of fourth vein..... 32
- . Wings without spots on the veins..... 45
32. Face opaque with pollen, the ground color not showing through 33
- . Face showing some metallic color, the pollen not wholly concealing the ground color..... 37

33. Beard composed of black bristles and some yellowish hairs; face of female with yellowish-brown pollen, with a small spot of grayish pollen on each side below the suture; male with a small protuberance below near the tip of fore femora (Alaska).....*signiferus* Coquillett
- Beard white or yellowish, sometimes a few black bristles under the neck 34
34. Fore coxæ with yellow hair, without black bristles (Wyoming)*algens* Wheeler
- Fore coxæ with black bristles besides those at tip..... 35
35. Spots on the wing veins faint; fore coxæ with a row of about sixteen bristles, shortest at base, longer toward the tip (Eastern)*pirata* Loew
- Wings with the spots on the veins very conspicuous..... 36
36. Fore coxæ with an irregular row of little black bristles on outer anterior edge; their pollen yellowish brown on inner portion, contrasting with the white pollen of outer surface; pollen of face yellowish brown (Eastern as far as Colorado)*chrysologus* Walker
- Fore coxæ with two rows of black bristles or stiff hairs exterior to the center of the front surface, their pollen whitish; pollen of face white (Alaska)....*brevicauda* Van Duzee
37. Propleuræ without a black bristle, having only pale hairs above the fore coxæ, or a yellowish bristle (British Columbia)*phoca* Aldrich
- Propleuræ with a black bristle above each fore coxa..... 38
38. Middle femora with long black bristles at base below, in male 4-5, in female 2 (Alaska).....*pilitarsis* Malloch
- Middle femora without such bristles at base below..... 39
39. Females 40
- Males 41
40. Fore femora with about seven spines below (Wyoming).....*algens* Wheeler
- Fore femora without spines below, except sometimes three very small ones near the tip (Alaska).....*propinquus* Van Duzee
41. Fore femora plain, without a protuberance below near the tip 42
- Fore femora with a protuberance near the tip below, preceded by about five spines in a group..... 43
42. Dorsocentral bristles long (Wyoming).....*algens* Wheeler
- Dorsocentral bristles very short (Oregon).....*maculipennis* Van Duzee
43. Many black bristles mixed with the beard (Alaska).....*signiferus* Coquillett
- Beard without black bristles, except sometimes a few under the neck 44
44. Fore coxæ with pale hairs (Alaska).....*propinquus* Van Duzee
- Fore coxæ with the hairs wholly or almost wholly black (Alaska)*nigribarbus* Van Duzee

45. Fore coxæ with black bristles or spines besides those at tip..... 46
 —. Fore coxæ without black bristles, except at tip and sometimes these are missing, or there may be a hair-like one near the base..... 52
46. Face wholly opaque with pollen..... 47
 —. Face showing some metallic color on upper portion..... 48
47. Fore coxæ with a row of spines, longer at base, running out apically (Eastern) *parvus* Loew
 —. Fore coxæ with a row of spines, longest at tip, running out basally (Eastern) *pirata* Loew
 —. Fore coxæ with a row of four black spines of about equal size on apical half (Manitoba)..... *lividipes* Van Duzee
48. Fore coxæ with black hair on anterior surface and a row of slender, bristle-like, hairs on outer edge (Alaska), male of *nigribarbus* Van Duzee
 —. Hairs of fore coxæ white or yellowish..... 49
49. Hairs on fore coxæ rather long, yellow; a row of 7-12 black bristles, of nearly equal length, on outer edge of apical half of anterior surface of fore coxæ, these bristles fewer and smaller in the female (Alaska)..... *brevicauda* Van Duzee
 —. Hairs of fore coxæ white or yellowish white, minute..... 50
50. Fore coxæ with a row of bristles on outer edge, longest above, more or less interrupted in the middle (Alaska, Northwestern States) *innotatus* Loew
 —. Fore coxæ with a row about twelve rather short, black bristles of about equal length, extending nearly their whole length (Alaska) *fumipennis* Van Duzee
 —. Fore coxæ with a row of four black bristles on upper outer corner of anterior surface (Oregon)..... *vandykei* n. sp.
 —. Fore coxæ with a row of about six black bristles on apical half 51
51. Fore femora near tip and fore tibiæ near base, with a small protuberance below (Alaska). Male of.... *propinquus* Van Duzee
 —. Fore femora and tibiæ plain in the male (Colorado)..... *altivagus* Aldrich
52. Face wholly opaque with white pollen..... 53
 —. Face showing some metallic color on upper portion..... 55
 —. Face wholly opaque with gray pollen; fore coxæ with yellowish pollen and rather long yellow hair, but wholly without black bristles (Alaska). Female of..... *aquatilis* Aldrich
53. Fore femora thick on basal part, slender on apical portion, with three long spines near basal third and a yellowish protuberance near the tip below, preceded by appendages that have slender, short stems and are much enlarged at tip (Quebec). Male of..... *extrarius* Aldrich
 —. Fore femora without such protuberances..... 54

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